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Devoted to the interests and advancement of those engaged in school health activities and the service rendered by them

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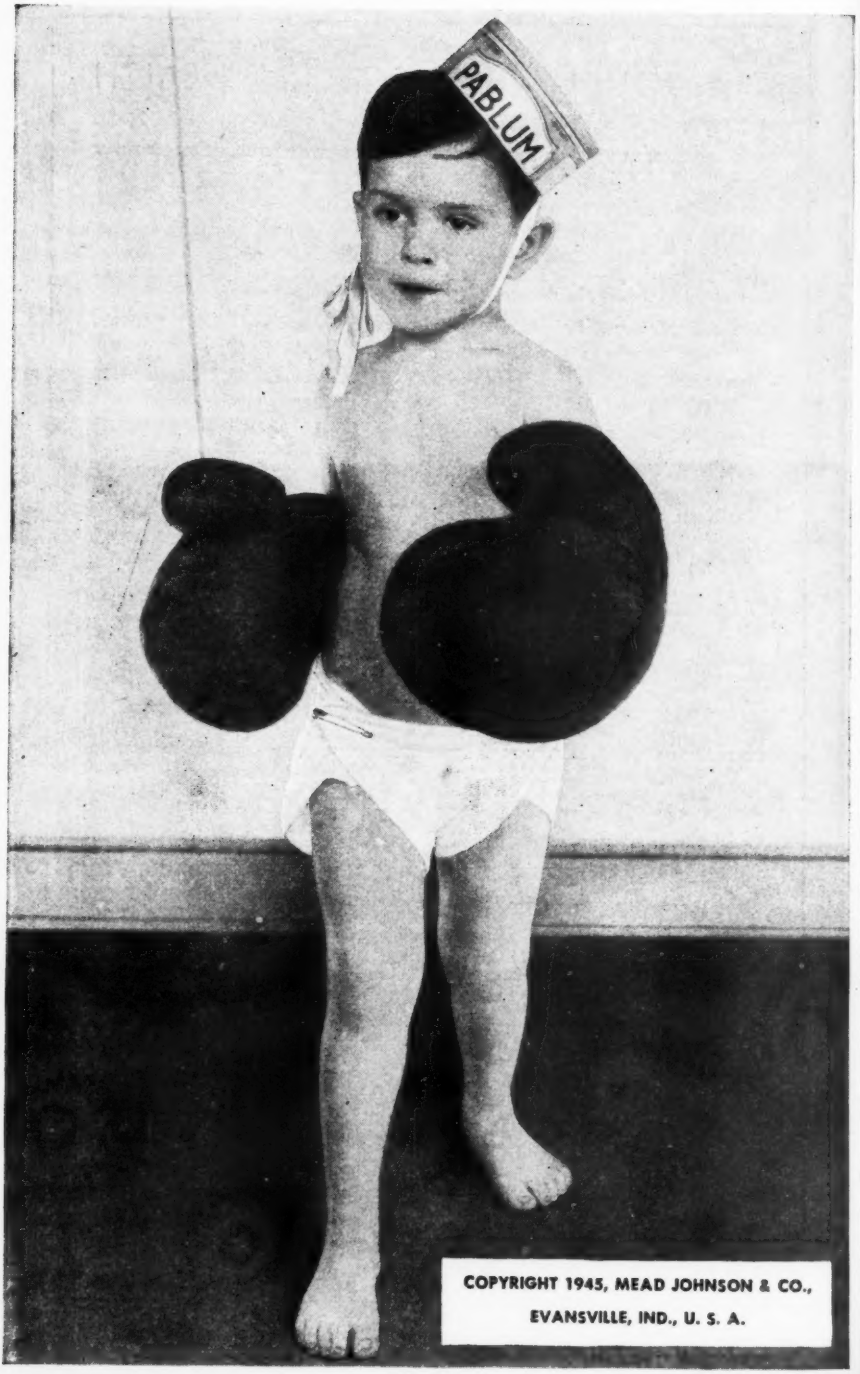
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THE JOURNAL OF SCHOOL HEALTH

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HEALTH PROTECTION — 1946 MODEL

HAMLET C. PULLEY, M.D.
Los Angeles City Health Department

Childhood infections have been robbed of much of their terror. Some of them have been all but banished. Today's infants have a better chance than ever before of reaching adulthood. They can escape or postpone at least four contagious diseases — smallpox, diphtheria, whooping cough, and measles — diseases which in recent years were considered routine hazards of growing up. Moreover, they are as a rule healthier and more vigorous than were their parents at the same age.

The average age at death in this country in 1942 was 65 years as compared with 50 years in 1902. This 15-year extension of the average length of life in four decades is accounted for more by a greater survival rate among infants and young children than by an extension of adult life.

Most bacterial and virus diseases confer some degree of immunity on the sufferer when and if he recovers. Medically induced protection against infection is based on the principle that the specific infective agent may be modified in such a way that it becomes harmless, but still is able to produce immunity similar to that which follows the disease itself. Faithful application of this principle to one disease after another has resulted in mastery of some and partial control over others.

To learn what preventive medicine holds for infants, let us follow a busy physician in his management of well children. After helping the newcomer across the threshold of birth, he opens his magic bag and one by one produces his scientific devices to safeguard his little patient against disease. He starts early. For the average infant, six months is not considered too young. The serious outcome so frequently associated with the common communicable diseases in infants under one year of age makes this early protection urgent.

Whooping Cough—Dread Foe of Infancy,—Whooping cough (pertussis) is especially severe on infants. Ninety-three per cent of its deaths are babies under two years of age; 75 per cent are under one (Los Angeles City Health Department statistics 1939-43).

During the last decade a rather dependable pertussis vaccine has been perfected. It is a highly concentrated, especially treated preparation of carefully selected "pertussis bacilli," which protects infants against this treacherous disease. One course of three injection will usually protect a baby until age two, then a booster dose will see the child out of danger, for if after that, whooping cough comes, it is not likely to be severe. (A "booster" dose is a small amount of vaccine given after the initial immunization, to "boost" or restimulate body defenses.)

But suppose the infant is exposed to whooping cough before he is protected. His doctor can rescue him from the situation with a hyperimmune serum. It is a 20-fold concentrate of serum from persons with a stepped-up immunity to whooping cough effected by superimmunization (artificial immunization of an already immune person) after recovery from the disease. Given soon after exposure, it will tide the infant over immediate danger and permit time for the development of more lasting protective immunity by the use of pertussis vaccine.

Diphtheria Can Be Conquered,—Then there is diphtheria immunization. Recommended as a routine protective for children, diphtheria toxoid has repeatedly demonstrated its effectiveness in preventing epidemics.

There is a tendency for older children and adults to develop a natural immunity to diphtheria because of exposure to the disease or its carriers. For this reason it has been called a disease of childhood. But once it strikes it is equally serious for adults and infants, for it does its damage by a powerful bacterial toxin or poison which is fatal to ten per cent of patients and damaging to others.

By use of certain chemicals, toxin can be destroyed without altering its defensive antibody-producing effect. Administered with safety in three doses, spaced about four weeks apart, it immunizes a child against diphtheria for about three years, then treatment can be repeated, or a Schick test given to determine if immunity still persists.

A later improvement, reducing the number of injections from three to two, was made by treating toxoid with a chemical such as alum which causes it to be absorbed more slowly. Such a preparation is ideal to be used as a "one shot" booster for children after an initial immunization.

Unlocking the Menace of Lockjaw,—A new attack on tetanus (lockjaw), a wound infection with severe general symptoms and high death rate, came ten years ago with the preparation of tetanus

toxoid. This is prepared and used in a manner similar to diphtheria toxoid. Immunization in childhood will not, by itself, confer protection indefinitely, but a booster dose given at the time of injury in a previously immunized individual makes administration of antitoxin (horse serum) unnecessary. Army use of this toxoid, given to soldiers shortly after induction into the service with a booster each year and again at the time of injury, gave our armies the lowest tetanus rates in the history of active warfare. Nine cases (seven of these had not had toxoid) in a twelve-million army in two and a half years of war. (Statistics to April, 1944).

Now our modern physician, caring for his infant patients, desires particularly to protect them against whooping cough and diphtheria. A few years ago this was a six-injection procedure and before it was over, baby had come to be mistrustful of its mother and had lost confidence in its doctor. Today's pediatrician uses one stone for three birds. The procedure is reduced to one-half by combining the pertussis vaccine and the diphtheria toxoid, and as an added bonus to baby, tetanus toxoid as well. The interval between injections is one month or more.

The simplicity of this triple attack, combating three diseases with one course of three injections is again appreciated when booster doses are given two to five years later.

So we arrive at an acceptable immunization scheme for infants: trimple immunization at age six to twelve months; a booster dose at two to three years and again at seven or eight. Pertussis may quite safely be omitted in boosters after age four, for whooping cough in older, once immunized children is relatively mild.

Giving Smallpox "the Gate,"—When the doctor, having given first thought to whooping cough and diphtheria protection, now recommends vaccination against smallpox, mothers (some of them) look alarmed. "I didn't know there was smallpox," their eyes say. "No," says the doctor, "there is no smallpox here now and we are quite satisfied without it. But people are coming here from Mexico and other countries where smallpox exists, and unless we keep ourselves protected, we can have a severe epidemic."

Some physicians vaccinate infants as early as one month after birth because the reaction in young babies is so mild. Others prefer to wait until they reach the first birthday. For the child to become vaccinated is much more important than the particular time chosen for the procedure. To keep up full protection, *vaccination should be repeated every five years.* If this is done, all reactions after the first will be very mild, rarely leaving any scar at all.

Fading the Spots of Measles,—New strategy is used against an old troublesome, universally prevalent childhood disease, measles. Death from this cause occurs amongst the very young. If we can put off the disease until later in life we can frequently prevent serious complications and death. This we do by providing temporary (passive) immunity by giving the child, who has been exposed, antibodies (in serum) from someone who has had the disease. These antibodies disappear rapidly but in the meantime postpone the infection until a time when it is less likely to be severe.

To make use of this quick-acting treatment the approximate time of exposure must be known, and it usually is known for infants and small children, who get the infection from a school-age brother or sister or a known playmate.

If not more than five days are allowed to elapse after such exposure, measles can be prevented. The preparation used is a concentrate from the blood serum of adults, themselves almost universally immune to measles. This immune globulin has been prepared as a by-product of blood donated to the Red Cross blood banks. A similar product (placental extract) is salvaged from the placental blood collected from maternity wards. Both are dependable products.

With healthy children, safely past early infancy, often it is deemed desirable not to prevent measles totally, but to reduce its possible severity. This our modern doctor may attempt either by reducing the dose of protective immune globulin or perhaps more dependably by administering it between the fifth and eleventh day after the first exposure. Such a controlled case of measles is little to be feared in a child over three, but retains the virtue of imparting immunity for life, just as dependably as does a severe measles illness.

Progress in Scarlet Fever,—Scarlet fever still abounds. The immunization procedure described for it is not generally recommended because it frequently produces a severe reaction. It does not prevent streptococcus sore throat which is related to scarlet fever, and modern drugs more successfully combat the disease and prevent its spread. There is, however, a recent announcement that scarlet fever toxoid has been greatly improved both in effectiveness and safety.

It is well known in medical circles that all children do not fall into the same pattern for treatment or management. To care for a child successfully, more judgment is required than the mere routine application of a general formula such as the above outline for immunization. In any individual case there may be reason

to deviate from these recommendations. In any event, your physician's advice takes precedence.

To summarize, diphtheria and whooping cough can both be prevented. These are the two most serious communicable diseases of childhood. Smallpox does not attack the vaccinated, measles can be held off or softened up by careful timing of treatment, and tetanus protection can be stored up for the emergency of an infected wound. Scarlet fever and epidemic meningitis respond well to modern drugs. Complications can be prevented, the course of illness reduced and their spread can be controlled.

These are some of the safeguards physicians can offer us for our children. They are important components of our 1946 health-protection armamentarium. Reprinted from *Health Education Journal*, Los Angeles City Schools, Feb., 1946, p. 4.

* * * * *

Bread.—McCance (R. A.) points out that there are many substances of proved nutritional value in the outer endosperm and germ of the wheat grain. The inner endosperm is poor stuff nutritionally, and its poverty is enhanced by the fact that its protein is known to contain an unbalanced and incomplete mixture of amino acids. Experience and experiments with animals fully bear out this chemical evidence. A table shows what happens to the composition of flours as the extraction rates are lowered. Changes are due to the gradual removal of the bran, outer endosperm and germ. By 85 per cent extraction, most of the bran has gone, and this has led to the big fall in minerals, but most of the germ and scutellum have been retained, with some of the outer endosperm. This has prevented serious fall in vitamin B_1 and has held up the concentration of iron and other vitamins. A big fall in vitamin B_1 occurs as the extraction falls from 85 to 75 per cent, because it is between these two extractions that the germ and scutellum are removed. The inclusion of bran in the flour lowers the utilizable calories of bread, so that raising the extraction rate indefinitely is not all pure gain. Up to 85 per cent the rate of utilization does not fall off much. Flour must in future conform to certain nutritional standards, and these shall be of the order of those contained in flours of 80 to 85 per cent extraction. Everything that we know about biology and nutrition is opposed to the practice of artificial enrichment. Synthetic vitamins and vitamin concentrates are expedients that cannot form the basis for sound nutrition. Good nutrition must be built on a foundation of an optimum diet of natural food stuffs. Abstract from London Lancet, in the *Journ. A. M. A.*, April 27, 1946, p. 1268.

HEALTH IN HUMAN RELATIONS SERIES
THE COMMUNITY AND THE SCHOOLS

RENA FERGUSON PARKS
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City Hall, Portland, Oregon

This is not an explanation of the need for community health and family life education. Needs are the broad and varying aspects which lead to education. Rather, this is an explanation of an educational plan designed as a corner in the overall health education program, and carried forward out of experience gained through wartime education projects when venereal disease information reached 60,880 men, women and teen-age youth through lectures, sound pictures, and pamphlet materials.

Portland, Oregon, has a population of over 400,000 people; also an adjacent area having approximately 30,000 population. The war-time program was presented to community groups including the church and community organizations; to War Production Training Schools in the city and with shipbuilding corporations; the police department, Portland high schools, and private schools and colleges.

High School Program: Progress in community programs raised the question about instructional information for high school students. Parents who had attended the programs presented in industry or community organizations were beginning to ask what was being done for the secondary school student. An interest on the part of parents and a recognition of the need as indicated through nation-wide reports of the number of young people contracting venereal disease opened the way for the health officer to recommend to the superintendent of schools that information about veneral disease be given in the high schools. A conference was held by the health officer and superintendent of schools who decided that the problem should be approached as a communicable disease, and presented as a unit through the classes in health education. The setting was right as all senior students are required to take health education. The unit could be introduced without creating an artificial situation. It was agreed that the factual scientific material would be prepared by the health officer and incorporated into a unit by the director of health education.

A meeting of all health and physical education instructors was held and the subject of venereal disease, as a part of a unit on communicable disease, was presented by the superintendent of

schools, at which time he stated that the administrative officers were particularly interested in making this program a success. Pictures depicting the venereal disease problem were shown and factual material presented. An opportunity was given to ask questions. The plan of presentation was discussed by the director of health education.

As a new undertaking it was decided the program would be presented in all high schools at approximately the same time. The unit was so planned that it could be completed in three successive class periods. The unit included: 1st day, presentation of venereal disease as a communicable disease by health or physical education instructor, giving factual material and preparation for the class on the following day. 2nd day, presentation of films, "With These Weapons" or "Know For Sure." A physician directed the discussion and answered questions. 3rd day, presentation of film "Our Job to Know" and discussion and answering of questions by the health and physical education instructor in the regular class.

The same procedure was followed the next year. The results were so satisfactory in general city-wide acceptance of the program that it was decided to continue the unit each spring term with one change, i. e., since the health and physical education instructors were sufficiently secure in their presentation of material it was believed unwise to bring in a physician for the second session except in instances in which the instructor requested assistance. The program was carried out entirely by school personnel without a single repercussion. This unit is now an accepted part of the basic instruction in communicable disease as presented in the course of health education in secondary schools.

Community Acceptance: Community program audiences continued to request that venereal disease information be placed in the schools, and were surprised to learn that it already had been successfully accomplished.

It was agreed that information of this character should continue to be carried on into the home, and that a background of allied topics should be discussed in an effort to bring about greater understanding between the community and the schools, and so it was that the health program progressed.

City-Wide Health in Human Relations Series: The present health information plan is offered as continued aid to our Portland Communities, furthering progress already made. It attempts to promote a better understanding of the constant purpose for which this information is intended. The "Health in Human Relations Series" was devised, namely, to better individual health, to encour-

age happier family living, and to improve conditions in the community, especially as it affects the child and youth.

Credit should go to the University of Pennsylvania and Dr. Stokes for the timely influence the 1945 Institute had upon the present Portland program, for it has been a stimulus and a tool in the general planning.[1]

Close Cooperation: The project, as developed to meet community need, functions through the Portland Council of the Oregon Congress of Parents and Teachers who, recognizing this timely approach to health and family life education, sponsored the Bureau of Health program and gave it backing.

How the Present Program Came to Be: Before inaugurating the series plan, clearance was made with other agencies in the health field, who are cooperating with the Bureau of Health and Parent Teacher Council, supplying speakers, sound projectors, and pamphlets upon request.

In the Spring of 1945, having in mind a post-war program, Dr. Thomas L. Meador, City Health Officer, Portland Bureau of Health, sanctioned a survey plan to discuss with eight active Portland Neighborhood Councils the needs for a general health information program which would include venereal disease education. Neighborhood Councils function in the capacity of aiding community leaders through discussion and recommendations of ways and means to meet more adequately community needs or problems as they may arise. Through arrangements with these Councils, health and family life education for parents, with child and youth implications, was discussed; venereal disease education films were shown, and varied aspects of community education were brought out. School principals, church leaders, leaders from youth organizations, Parent Teacher organizations, industry, housing projects counselors, leaders from recreation centers, all were reached. These people were of inestimable help in clarifying community needs.

With this information, the Bureau of Health approached the Portland Council of Parents and Teachers and developed as a city-wide project the program "Health in Human Relations" in series form to run throughout the school year.

Central Program: The outline of the program was planned to provide information related to health education for various leadership chairmen such as health chairman, study-group chairman, and others of the individual Parent Teacher groups, thus enabling them as leaders to establish similar programs in their own par-

1. *The Results of the Course in Health and Human Relations for Teachers.* Journal School Health, Jan., 1945, p. 1.—Ed.

ticular organization and community. The plan would provide material through speakers, films, and literature. The Central Program as a series was prepared as follows:

Title: "Health in Human Relations Series" - 1945. November 2. Subject: "We Are Living in a 'Mobile and Fluid Society.' Do Changing Patterns Affect the Family? How Do Sentiments Influence Behavior? What Are the Family Implications?" Introduction by Thos. L. Meador, M.D., City Health Officer. Sound picture: "Youth in Crisis." Literature: "Guiding the Adolescent," "Home Study Course" by Roy E. Dickerson.

December 7. Subject: "How Shall Parents Answer Children's Questions on Reproduction? Answers May Determine Child's Adjustment to Marriage." Speaker: Jessie Laird Brodie, M.D., Medical Advisor to Women, Reed College. Sound picture: "Sex in Life," an English film. Pamphlets: "Sex Education in the Home," "How Does My Baby Grow?"

January 4, 1946. Subject: "The Adolescent — The Age of Growing Out of Himself — Do My Parents Understand Me?" Speaker: Dr. Otheniel R. Chambers, Head, Department of Psychology, Oregon State College. Pamphlets: "Petting—Wise or Otherwise," "Health For Man and Boy," "Health For Women and Girls."

February 1. Subject: "The Age of Romance—Shall We Have a Basis of Understanding When We Select a Mate?" Speaker: Dr. Lawrence Bee, Associate Professor of Sociology, Reed College. Pamphlets: "Marriage and Parenthood."

March 1. Subject: "Venereal Disease a Threat to the Family—Let's Not Fear It, Let's Understand It." Speaker: William H. Aufranc, M.D., Acting Director of County Health Units and V.D. Control Officer, State Board of Health. Sound pictures: "Our Job to Know." Pamphlets: "Some Dangerous Communicable Diseases," "Meet Your Enemy."

April 5. Subject: "Mental and Emotional Patterns—What Effect Have These Upon Family Relations?" Speaker: Dr. Thompson Shannon, president of Oregon Mental Hygiene Society, and minister of First Christian Church. Pamphlets selected.

May 3. Subject: "Table Talk"—A Panel by Parents. Discussion of the cultural influences of Table Talk.

Organization Plans Carried Out: A committee made up of Parent Teacher Council members and the Bureau of Health representative acted as a steering committee.

Through arrangements agreed upon by the Council president and members of the committee, the Bureau of Health representa-

tive explained the plan and purpose for the program series to 414 leaders of community and other groups throughout the Portland area: at Parent Teacher Council, Board meetings, to the Board of Managers, where approximately 150 officers attend monthly meetings. Mimeographed program outlines explaining the central program series were distributed to leaders of groups, others were mailed directly to Parent Teacher presidents, numbering 68 and representing all Portland Parent Teacher organizations. Presidents were expected to promote the program as a part of the year's educational work.

It was arranged that members of the Council acting on the steering committee, who were also health chairmen, would act in turn to introduce speakers for the central program, as it got under way. The Council's Social Hygiene Chairman and the Bureau of Health representative direct all leadership series arrangements: seating, registration, literature distribution, supplying films, running the projector, and other detail work. This method has prevented slip-ups in program functioning.

As a result of promotion and planning, all 68 Parent Teacher groups regularly have had their leaders in attendance at the central series. The average attendance has been 92 each month taking advantage of the information course.

The focal point is the central program. There, leaders are receiving information suitable for their individual community groups. Definitely attention is being focused upon the community and, a city-wide program series is encouraged where parents may participate in the community plan. The aim is to help parents become better informed teachers in the home; better informed regarding community needs, with a view to fostering better relationship between parents, children, and schools.

Following the general plan, 22 individual programs in series form were scheduled in as many communities. Individual groups range from 20 to 100 parents in attendance. This was not true at first, but as the plan became better understood and winter flu subsided, program attendance improved and interest picked up.

Evening programs at which both fathers and mothers attend double the attendance. Groups outside Parent Teacher circles have called for program schedules, but limited personnel must be considered lest the program as a whole exceed the possibilities of good work and timing. But such requests are not overlooked, and to meet advancing interests a special evening program supplementing the central series was arranged for April 3, at Library Hall when

Dr. Otheniel R. Chambers, of Oregon State College, will speak on the most interest-provoking subject of all, the Adolescent.

Seeing the eagerness with which parents, especially mothers, attend such meetings, to hear the remarks of wonderment and praise emanating out of a meeting, and witness the after-session with the speaker when he answers questions and counsels those with individual problems who seek help, leaves one with the feeling, why haven't we done this before. They are the little sign posts along the way.

Criticisms are welcome, for they are helpful indicators of the varied needs.

Four Parent Teacher organizations representing as many schools are combining with the Housing Project now accommodating returned veterans and families, making the Community House the central meeting place for the Health In Human Relations Series. University Homes, another housing project turned over to returned veterans and families also has its program series. An exception is made here, for an evening program for fathers has been arranged for the end of the regular series and has come out of a special request from this group.

The Pacific Bible College where approximately 100 leaders attend a seminar has requested a program series. Arrangements have been made for five speakers, films, and pamphlets. This program duplicates the central series except that it has five units instead of seven.

Other organizations have picked up the trend and at present a four-unit series sponsored by The First Christian Church and the Oregon Mental Hygiene Society, with Dr. Lawrence Bee, Reed College, speaker, was completed last evening. Library Hall was packed. Another series sponsored by one of the agencies is scheduled for Multnomah College. The Bureau of Health is looking forward to continued Parent Teacher sponsorship for this coming year. Already ten or more Parent Teacher groups have requested programs for this fall and winter. More calls are coming in for the Bureau of Health representative, as the desire for explanation of the program is forthcoming among community groups.

Individuals are inquiring about locations where they may enroll for the program series. Publicity through newspapers is given the city-wide project.

KEX radio station broadcast a Sunday evening series of dramatic episodes on venereal disease, titled "The Unseen Enemy," presented by transcription. An article with photographs relative to the Parent Teacher sponsored program appeared in "The Voice

of American Women" magazine. The magazine is dedicated to women active in civic and business life, and has a circulation of around 5,000 readers.

Our greatest publicity comes through the grapevine: even a new pamphlet appearing in a Parent Teacher meeting is heard about across the city and becomes a "must" surprisingly soon. Those groups who can afford to pay for the more expensive literature volunteer to do so, which helps the fund for supply.

The Bureau of Health over-all program is considerable, for at the time of writing calls are coming for even a single program. This has been proven to mean that the group is considering a longer series in the fall. Not understanding the program, people want it explained, so they can understand it. This is building interest for the future.

* * * * *

Fellowships in Health Education,—Fellowships for one year of graduate study in health education, leading to a master's degree in public health, are being offered to qualified men and women by the United States Public Health Service through funds made available by the National Foundation for Infantile Paralysis.

Fellowships provide a year's study in public health education in an accredited school of public health. Courses include public health administration, epidemiology, public health and school health education, problems in health education, community organization, and information techniques. Financial assistance includes a stipend of $100 a month for the entire period of academic and field training, tuition, and travel expenses for field experience. Travel to and from the university at the beginning and end of training is not included. Fellowships are effective for the academic year starting in the fall of 1946.

Men and women in sound health, between the ages of twenty-two and forty, who are citizens of the United States and who meet the entrance requirements of the School of Public Health of their choice are eligible. Veterans with the necessary qualifications are encouraged to apply for fellowships. The subsistence allowance for veterans granted under the GI Bill of Rights will be supplemented by fellowship funds to bring the stipend to $100 a month.

Fellowships are not available to employees of health departments since grant-in-aid funds are available for the training of such personnel.

Application forms and further details may be obtained from the Surgeon General, United States Public Health Service, Washington 25, D. C. To be considered, applications must be in the office of the Surgeon General not later than June 1, 1946.

"SCREENING," EYE EXAMINATIONS, AND FOLLOW-UP*

Presents Descriptions of Various Vision Tests and Procedures, as Well as a Discussion of Personnel for Such Procedures.

Impaired vision or blindness can often be prevented, and nervous strain from defective sight relieved, through early recognition, correct diagnosis, and proper treatment of eye conditions. Eye diseases and defects are often present without being recognized either by the individual, or those around him, until considerable damage has resulted either to sight or to efficiency.

Periodic, comprehensive eye examinations are the ideal means of early discovery and diagnosis of such conditions, but, when such a program is not feasible, periodic "screening" tests of vision and observations to note signs of eye trouble are helpful in locating persons needing care. These, however, are gross tests, serving only to indicate the probability, not the proof, of the need of eye care, and are insufficient for diagnosis. This fact should be understood by all concerned—those making the screening, those tested, and all others interested.

After the screening, the need of a proper examination for those suspected of having eye difficulties must be recognized; guidance and assistance should be offered in planning and making the necessary arrangements. After the examination, in carrying out recommendations, encouragement and help may also be needed for an indefinite period of time.

A program for early diagnosis and care of eye conditions includes:

1. Early discovery through periodic screening of groups of individuals.
2. Comprehensive eye examination for each one who seems to have any visual or eye difficulty.
3. Follow-up to aid in securing eye examinations and in carrying out recommendations.

Visual screening programs require:

1. Co-operation of all concerned.
2. Careful selection and preparation of personnel to give tests, observe reactions, and explain follow-up procedures.
3. Provision for the use of suitable, standardized procedures and equipment for testing, with proper facilities for conducting the tests.
4. Careful interpretation of screening procedures, results and recommendations to all undergoing the tests.

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*Chapter V of forthcoming volume, *Eye Health—A Teaching Handbook for Nurses*, published by the National Society for the Prevention of Blindness.
Reprinted by permission from the *Sight Saving Review*.

Even under the most favorable circumstances, a few who need care are likely to be missed; while others may be "screened out" who, on examination, will be found to have no eye difficulty requiring attention. Comparative studies are the only means by which an accurate estimate of this margin of error can be obtained. In such studies, findings of the various tests of a sufficiently large, cross-section sampling of the group screened are compared with those obtained by an eye specialist through a diagnostic examination of the same visual functions as were grossly tested in the screening.

The first step is to seek help in planning a program which will be practical and valuable. In this, those administratively responsible, eye specialists, and the personnel to do the work, can give the greatest aid. With the administrator rests the responsibility for provision of facilities, selection of personnel, arrangements for necessary training, and the general planning of the program.

Eye specialists can help in the selection of suitable screening procedures, in outlining facilities needed, in training of personnel, and in interpreting the program to their colleagues. Community agencies can assist in planning the follow-up.

Careful selection and training of the persons who are to make screening tests and observations greatly affect the reliability of the results. The essential qualifications are that they be capable of being instructed: (a) To do the work in an orderly, businesslike, but kindly, manner by making good contacts with the individuals to be screened; (b) to follow instructions carefully and have the necessary knowledge and skills; (c) to be alert to signs of eye difficulty; (d) to keep accurate records; (e) to make such interpretations of their findings as lie within the scope of their functions.

Preparation should include explanation and demonstration of tests and observations, and practice under supervision until proficiency is established.

Personnel for follow-up need equally careful selection and preparation, to assure correct interpretation of the significance of the screening, and provide adequate guidance to sources for a careful examination and such other services as may be required. Persons to do this work therefore should: (a) Be capable of conducting individual interviews skillfully and of interpreting scientific material to individuals with various backgrounds and knowledge; and (b) be familiar with local resources for eye care and the ethical procedures for guiding people to them.

Basic skills for the above usually require a high level of professional preparation, such as that required for public health nurs-

ing or for medical social work.

Careful interpretation of the purposes and limitations of the screening process, before the tests and observations are made, prevents misunderstandings and paves the way for follow-up. It should be made clear that the screen is not a substitute for an eye examination. When suitable, the difference between a comprehensive examination by a qualified eye specialist and the screening procedures may be pointed out and information may be given about community resources for eye examination and care.

The tests themselves need explanation so that each person knows how to cooperate. For some individuals, especially young children a preliminary drill is desirable.

Screening procedures must be suited to those to be tested and to the particular situations in which the screening is to be carried out. In selecting those most suitable, the following points should be considered:

1. Signs and symptoms of eye difficulties should be noted, to supplement information obtained from the tests.
2. A battery of tests is needed to measure the performance of various aspects of visual functioning.
3. Only well-recognized tests and procedures should be used for screening; new test methods or devices should be adopted only after careful validation and under proper guidance.
4. Tests and procedures should be suited to particular situations and individuals, necessary adaptations being made under expert guidance.

Observation, inspection, and attention to complaints supplement test findings and sometimes provide in themselves sufficient evidence to warrant referral for an eye examination.

Symptoms for which *immediate ophthalmological* care should be sought include:

Swollen, inflamed lids, especially if the eyes are bloodshot and there is a purulent discharge.

Severe ocular pain, with or without redness of the bulbar conjunctiva or sclera.

Any sudden change in vision such as double vision or dimming sight.

Other symptoms which should be investigated include:

Lid irritation, such as sties, crusted and inflamed lid margins.

Signs of fatigue from eye work, such as: discomfort, dizziness, headaches, nausea, scowling, rubbing eyes, frequent

blinking, or inability to do close visual work for a reasonable period.

Apparent use of one eye.

Crossed or divergent eyes.

Irregularities of pupils of the eyes, or their failure to react normally to light.

Unusual head positions.

Undue sensitivity to light.

Inability to see distant objects.

Holding of reading material or other fine work unusually *near* or unusually *far* from the eyes to see it clearly.

Proneness to accident: stumbling over objects in path or failure to appreciate height of steps, getting fingers caught in machines, automobile accidents, etc.

Visual functions usually considered most important to test are central visual acuity (distance, near and at working distance), peripheral vision, muscle balance, and color vision. Fusion and depth perception are also sometimes included when vocational guidance is one of the objectives of the screening.

As no one test can measure all of these aspects of vision, it is necessary to use a battery of tests. Such a battery may consist of recognized tests similar to those used in clinical practice, or it may be decided to use a steroscopic testing device which affords tests of the various functions.

The following tests* are among those most commonly used for preschool, school and industrial groups:

Snellen.—This is the standard test of distance central visual acuity; for most screening purposes it is considered the most important single test. It consists of reading test objects (letters, numbers or symbols) from a distance of 20 feet. The objects are of graduated sizes and constructed according to scientific optical principles. Each size is numbered to indicate the standard distance at which a person with normal visual acuity should be able to distinguish it. Hence one is said to have "normal" distance central visual acuity if he can see the 20-foot size or smaller from 20 feet away. At the same time it must be remembered that such a standard is not always possible for young children, even when their sight is normal.

For convenience, the results of this test are expressed as a fraction, the numerator indicating the distance from the chart, the denominator, the smallest size objects read correctly. It must

*Detailed outlines of these screening procedures, for children or for adults, are available from the National Society for the Prevention of Blindness.

always be borne in mind that this is not a fraction, and cannot be interpreted to indicate the percentage of visual efficiency. For example, 20/30 indicates only that the 30-foot line is the smallest line read correctly at 20 feet. It represents 91.5 per cent of visual efficiency, according to standard tables of equivalents of visual efficiency. Generally, 20/20 is considered "normal vision." Those with a visual acuity of 20/15, or 20/10, have an unusual degree of visual efficiency.

The chart is placed with the 20-foot line[1] of test objects approximately at eye level, and, according to many authorities, for screening it should be provided with 8—12 foot-candles of evenly distributed light. A standard chart unit, providing the desired amount of light, is usually more satisfactory than one with improvised illumination. However, as some units are more brightly lighted than others, care should be taken to select one with the desired standard of approximately 10 foot-candles. Portable types are available.[2] Room lighting should be adjusted to at least one-fifth the amount on the chart, and should be free from glare and sharp shadows.

Each eye is tested separately, with the other completely covered by a clean white card. Then both eyes are tested together. If glasses are worn; testing first with and then without encourages the best performance. Memorizing can be prevented by not having objects read in sequence, or by using cards with holes of proper size to shown only one letter at a time.[3]

The Snellen test shows only the degree of distance visual acuity, without giving clues to the cause when this is low. But as it is possible, with significant amounts of hyperopia, to pass the test as normal or approximately so, some authorities recommend employing a simple test for hyperopia. This is done with a Snellen chart and hyperopic lenses of a specified strength. With this test it is necessary to use only the 20/20 line of the chart, since if this can be read with the lenses the person is inferred to have at least the degree of hyperopia represented by the strength of the lenses. Hence, ability to read the 20/20 line with the glasses constitutes "failure" in the test. Yet this does not necessarily indicate that

1. When space is limited the test can be made at a distance of 10 feet by using a mirror and a special Snellen chart designed for reverse reading, but this complicates problems of chart and room illumination for proper testing, and causes the chart to be viewed at an unnatural angle.
2. Information on portable, lighted chart units is available from the National Society for the Prevention of Blindness.
3. An inexpensive set of cover and window cards for this purpose is available from the National Society for the Prevention of Blindness.

the person needs glasses—a matter which can be determined only by a thorough eye examination.*

Several types of near-vision test charts are available for testing vision at approximately 14-16 inches. Some have printed paragraphs of graduated size, and others block letters or symbols drawn to Snellen scale, to be read at a stipulated distance. The Jaeger is an example of the former, while the Reading-Rating chart published by the American Medical Association is of the latter type. In recording results, the distance at which the test is given and the type of chart should be indicated. There should be 10 foot-candles of light on the chart and the person should not face a light. As in the Snellen test, each eye is tested separately, then both together, with and without glasses.

A rough measure of the extent of peripheral vision can be obtained by the confrontation test. This consists of ascertaining at what point above, below, and to each side of each eye, a person becomes aware of a large pinhead, which is kept in constant motion, and moved in an arc toward the center of the field of vision. Normally, while the pinhead is not seen clearly, its presence and motion are discerned almost as soon as it passes the bony orbital rim from any direction. This, however, varies somewhat with facial configuration.

For this purpose it is desirable to test: the muscle balance with eyes looking straight ahead; the ability to converge; and the co-ordination of the eyes as they are rotated. For the first of these, either the cover test or a Maddox's rod test may be used. The object of the cover test is to discover if the alignment of the eyes is maintained when one eye is covered briefly while the other is fixed on a bright object. The person looks at a light which, for the distance test, is placed 20 feet away, and for the near test at about 14 inches. The tester holds a small card in front of one of the subject's eyes in such a way that the light cannot be seen with that eye, but it can be watched to see if alignment is maintained. After a few seconds the card is shifted to cover the other eye—the eye which was previously covered being watched for a shift in the direction of its gaze. Normally, there should be no change in its position, either while the eye is covered or when the cover is removed.

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*This test is included in the battery of tests known as the Massachusetts Vision Test, full instructions and equipment for which are available from the Division of Child Hygiene, Massachusetts Department of Public Health, 73 Tremont Street, Boston, Mass.

(*Concluded in June*)

FITTING THE YOUNG HARD OF HEARING CHILD FOR SCHOOL THROUGH THE AUDITORY APPROACH

HELEN T. PATTEN

The Clinic with which I am connected was organized by Dr. Ruth P. Guilder in connection with the Winthrop Foundation of the Eye and Ear Infirmary, at 243 Charles St., Boston, Mass. Its sole purpose is to fit the hard of hearing child to adjust himself to the social habits and educational processes of his normal brothers and sisters.

In all cases the children have hearing aids. We have children as young as two years old wearing these mechanical devices.

There is a very well organized program of complete study for each child before he starts his work with me. It is as follows:

1. Otological study by an ear specialist.
2. Hearing study:
   a. For the preschool children:
      Toys, drums, whistles, horns and play technique are used.
   b. For the school child:
      An audiometric test.
3. Psychometric evaluation for all children.
4. General physical examination.
5. Social studies.

After the study is completed, the data are compiled and presented to a consultation clinic. This is where the recommendations are made as to:

1. Tonsils and adenoids.
2. Lip reading.
3. Hearing aid.
4. School for the deaf.

It is very important that a child be fitted with the proper hearing aid and this should be handled by an expert. It is our belief that we cannot begin too early to put a hearing aid on a child. Even if he has only a small amount of hearing, an aid will help a great deal.

When a child is referred to me, I work out a program for each individual case and this includes:

1. Development of speech, or correction of speech.
2. Language development.
3. Development of hearing by means of the hearing aid.
4. Lip reading.
5. Beginning reading.

Now to elaborate on these five points:

1. *Development of Speech.* I base my work in speech on the Northampton Charts of English Sounds as presented in the oral schools for the deaf, first developing the elements and then combining them into combinations and words, and finally into sentences.

2. *Language.* Just as soon as possible, and even before the child has a vocabulary of any great extent, I begin language training, always centering it around the child's own environment. This I think is of great importance in successful language teaching, as it gives each child a feeling that the spoken word is meaningful. We have language and more language. All of the other subjects are dependent on language.

3. *Development of Hearing by Means of the Hearing Aid.* We think in terms of what the child hears, and not the amount of loss of hearing he has when trying to develop the hearing by means of a hearing aid.

The audiogram is not always a true basis for the amount of hearing a child has, as the speech tones are heard better than the pure tones. The program of training the hearing by means of an aid is as follows:

(a) We develop the sense of hearing by the use of cymbals, bells, whistles, horns.
(b) Animal noises by means of records, as "The cow says, *Moo;*" "The sheep says, *Baa.*"
(c) Accent, change of pitch.
(d) As they go on with their training, they have nouns, commands, descriptions of pictures, objects and stories, all given through their hearing.

In fact, stress is laid on getting all their instruction through their hearing as far as possible. The time it takes for children to learn to use their hearing aids varies. We must not be discouraged if the progress is slow. It sometimes takes two years for a young child to realize what hearing is.

4. *Lip Reading.* If a child has depended on reading the lips until he begins to realize the usefulness of his hearing aid, we continue the training in lip reading. There is a feeling that perhaps the hearing aid interferes with a child's lip reading but this has been found not to be true. The use of the aid and the lip reading together help the child. The amount of lip reading given the children varies according to each one's ability to understand spoken language.

5. *Beginning Reading.* Beginning reading is given the children who are ready for it. We use flash cards, reading games and

various pre-primers. As the children get their speech and become of school age, they are recommended for kindergarten or first grade. The children's training with us must not stop with the entering of school, but must continue until they have gained self-confidence and are able to make their grade without difficulty.

It seems very fitting at this time to pay tribute to the wonderful work of Dr. Ruth P. Guilder, who was a pioneer in this field. It is hardly possible to give her the credit which she deserves in her achievements. She gave her life trying to place the hard of hearing child on the same basis as his normally hearing brothers and sisters. Not long ago, I heard it said of her that she was fast becoming a national figure in the field, and I am sure she was. I hope that her work may be carried on to its fullest extent and her ideas realized. The Volta Review, Feb., 1946, p. 102.

* * * * *

TEST YOUR RETENTION INDEX

How many of these questions can you answer? Give yourself ten points for each question answered correctly. If you get a score of 100 go to the top of the health-education class. For correct answers turn to page 148.

1. Name four prevalent diseases that can be prevented by immunization.
2. What is the best age to have this protection administered?
3. In immunizing against whooping cough how many injections are given?
4. If a child escapes diphtheria during childhood, is the disease less serious if it attacks him as an adult?
5. What three diseases can be prevented by triple toxoid?
6. How frequently should a person be vaccinated against smallpox?
7. What is meant by a "booster" dose?
8. How many cases of tetanus developed in the army during the recent war?
9. How early in infancy is it safe to vaccinate against smallpox?
10. (a) How soon after exposure to measles should immune serum be given to prevent the disease?
    (b) To modify or make the disease milder?

* * * * *

THE SCHOOL NURSE AND HER RELATIONSHIP TO THE SCHOOL PATRONS

GERTRUDE E. CROMWELL
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In a recent conference of school nurses, one of the problems most sharply outlined, in which the nurses felt they were not quite clear, concerned the procedures which they should follow in meeting public criticisms of unsatisfactory health conditions within the school. The criticisms they hear are undoubtedly valid, the nurse is interested in health, and something should be done.

Building Improvements.—Take for instance the obvious effect upon the health of the pupils and teachers of poor building situations where the lighting is poor, the heat and ventilation well below the standard given for school buildings in modern times, or the toilet and handwashing facilities are truly bad. The actual situation is something like this. Two out of every five school buildings are thirty or more years old. During the depression and war years few new buildings were constructed and many boards of education did not have financial resources sufficient to allot the standard two per cent of building value for maintainance. These factors are responsible for many of the lags in building sanitation and adequate health features. Shortages in the labor supply have added to the problem. What then should the school nurse be expected to do about these matters?

There are relatively few avenues open to the nurse in her attempts to alleviate the bad situations, but the first thing she should do would be to familiarize herself with the literature available to her on building standards which most state health or education departments have on hand. The nurse in a city school may then discuss the poor conditions within the building with the superintendent of schools and outline with his help the program which she may follow. It the nurse serves a rural area, her best resource is the sanitary engineer of her state or district health department.

Of course neither plan eliminates the need for discussing with the principal of a building, a teacher, or a custodian how improvements may be made in the use of the resources presently at hand. But to go out into the community and openly discuss bad school situations, thus arousing community feeling before the administrative authorities in charge of the school are ready or able to provide improvements is unethical and in many areas will cost the nurse her position.

Home Visits.—Much that the nurse has learned in her hospital ethics course will also be helpful to her as she works with parents in their homes. She will not discuss the teachers, the neighbors, or the superintendent of schools with a parent. The purpose of the visit undoubtedly centers about the children in the home and the discussion should be confined to the needs of the child, his family, and how these needs may be met. When the nurse returns to the building, she may tell the principal or teacher any facts or impressions she has gained which will help in understanding the child. The nurse must assume that teachers also have a code of ethics which demand that they, too, keep the confidences of nurse and child inviolate.

The School Health Council.—When the school nurse is fortunate enough to have an interested group of lay people to work with and help guide, she again must guard against violating the confidences of an individual family or of the school personnel. The nurse working with a lay council keeps her discussions within the broad areas of school and community needs about which members of the council may be constructively helpful. Perhaps the community needs to understand certain reasons why things cannot be done or the other way around, what the community should provide for the welfare of the pupils. Illustrative of this might be the need for unifying the efforts of several agencies to avoid duplication of services, rivalry or unfavorable publicity for individuals. This would apply more specifically to the resources available for the correction of defects or the provision of facilities for immunization and vaccination.

If the superintendent wishes the lay council to participate in securing public support for building improvements he will assist the nurse in using such services, otherwise the committee had best not tackle the problem. This attitude may lack a sense of forth rightness or frank approach to a bad situation but to proceed without the blessings of the school board members and their deputy can breed only antagonism.

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EDITORIAL

What price diphtheria?

Feeling fairly safe with toxin-antitoxin and toxoid at command health officers had believed that diphtheria in anything like epidemic porportions was impossible so long as 35% or more of the children were inoculated against this disease.

This feeling has been shown to be unjustified. In the state of New York, in other parts of the United States and in Europe there has been a distinct rise in diphtheria prevalence. On page 146 of this Journal is reprinted an abstract from *Health News*, the official bulletin of the New York State Department of Health discussing the recent conditions in New York and describing a recommended procedure to be carried out for the inoculation of at least 70% of our pre-school children. Similar directions appear on page 122 as a part of the article on Health Protection by a member of the Los Angeles Health Department.

To be really successful this *must* be a pre-school attack. Therefore it rests on parents and community, and particularly on the Health Department. The Health Department must take the lead in the needed campaign of education directed at parents, physicians and institutions where children are collected.

While in general inoculations are the function and imperative duty of Health Departments, nevertheless inoculations and reinoculations at a later age even up into the secondary school level

will usually have to be carried on under school supervision. Certainly the brunt of the essential educational campaign will rest in school efforts and teachings. This reinforced campaign is made necessary by this shift of base from a 35% standard to a 70% standard with booster and reinoculation efforts added.

The extended campaign should start immediately, and be carried on intensely particularly during the summer months as an added precaution against the carrier infection menace of the September opening of the schools when the previously sheltered child enters upon the community life of the school.—*C. H. K.*

* * * * *

THE EFFECT OF FLUORESCENT LIGHT ON VISION

FREDERICK J. VINTINNER

Director Division of Industrial Hygiene,
New Hampshire State Department of Health

There has been considerable discussion during the past few years on the effects of fluorescent lighting on the eyes. This has occurred among persons employed in industrial plants, school officials, office employees, and others. An official statement on the subject appeared in the August 25, 1945, issue of the Journal of the American Medical Association.

The following statement was submitted to the Council on Industrial Health by the Joint Committee on Industrial Ophthalmology representing the section on Ophthalmology of the American Medical Association and the American Academy of Ophthalmology and Otolaryngology:

"Fluorescent lighting has been regarded by physicians and others as possessing harmful qualities not found in other forms of artificial illumination or in daylight. Both the ultraviolet and ifrared components have been suspected. The Joint Committee on Industrial Ophthalmology, after consultation with specialists in the production and use of light, holds the following opinion:

"1. The ultraviolet energy from clear blue summer skylight is three to four times as great per foot candle as fluorescent light.

"2. Light from fluorescent lamps resembles daylight more closely than that from tungsten-filament lamps. This color resemblance to day-light is a desirable quality.

"3. Infrared energy found in fluorescent lighting as now manufactured produces no known physiologic effect except that due to heating. Fluorescent light generates less heat per candle power than tungsten lamps.

"4. Glare occurs in any system of lighting. Its solution rests with illuminating engineers.

"5. Individual differences occur in the level of illumination (foot candles) required to provide a satisfactory degree of visual efficiency and eye comfort. Twenty foot candles is essential for such critical tasks as reading. Higher levels of illumination are desirable for prolonged seeing, for discrimination of fine details and where low contrast prevails. These standards can be readily maintained in working places through use of properly installed fluorescent lighting.

"6. Excessive light may produce symptoms of eyestrain in susceptible individuals regardless of source. Constitutional factors should be corrected as well as the amount and kind of light.

"7. Noticeable flicker is largely eliminated in modern fluorescent installation."

Fluorescent light is not harmful to vision. It should not cause eyestrain if properly installed and used. Reprinted from New Hampshire Health News.

* * * * *

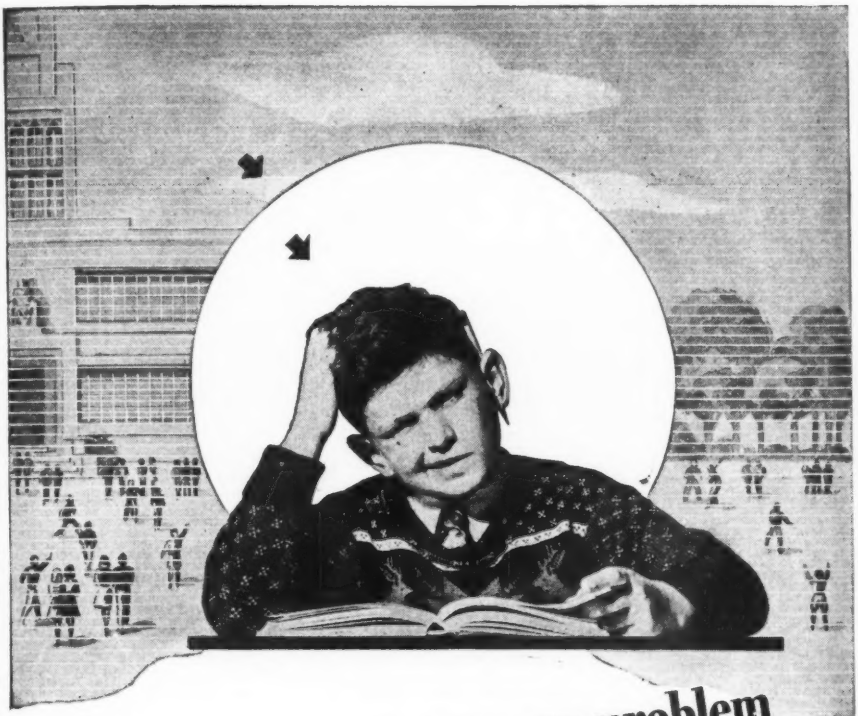
ABSTRACTS AND NOTES

Health Inspection,—Pamphlet No. 68, issued by the United States Office of Education, "What Every Teacher Should Know About the Physical Condition of Her Pupils," has been revised. It is available from the United States Printing Office, Washington, D.C., at ten cents per copy with order. This bulletin contains information which has great value for teachers concerning deviations from a normal health status of children, and it describes techniques of inspection and observation which teachers might use. It would also be available for health departments and boards of education as a mean of increasing teacher participation in the School Health Program.

* * * * *

Rising Diphtheria Prevalence Gives Warning to Boost Mass Immunization Levels,—Seventeen upstate communities now have at least 70 per cent of their children under five years of age immunized against diphtheria according to records on file in the State Department of Health. The places on this honor roll as of December 31, 1945 are: Binghamton, Corning, Hudson, Johnson City, Little Falls, Mamaroneck, Middletown, Newburgh, Ogdensburg, Ossining, Port Chester, Rochester, Syracuse, Troy, Utica, Watertown, White Plains.

The rise in diphtheria prevalence in this State (New York) and elsewhere in the United States, as well as in Europe, makes



pediculosis - a classroom problem

"It is highly probable that infestation with lice is rather common among school children. . . ."
Shelanski et al., Arch. Dermat. & Syph. 51:179, 1945.

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intensification of mass immunization programs imperative. The increase in diphtheria morbidity in Upstate New York which began in 1945 has continued in 1946. In January, 22 cases of diphtheria were reported, 5 of which were fatal. In February, 29 cases were reported—the highest number in any one month for nearly ten years.

In view of this upward trend, artificial immunization of a higher proportion of preschool children—at least 70 per cent—and reimmunization on entrance to school are urgently needed for the maintenance of adequate community protection. It is important that the initial immunization be given at six months of age and consist in each instance of a complete course of two doses of alum precipitated toxoid or three doses of fluid toxoid. All children who receive such injections while under two years of age should receive a booster dose of 1 ml. alum precipitated toxoid when they enter school for the first time. In areas of increased diphtheria prevalence, inoculation or reinoculation of all children through high school age who have not been so treated within the immediately preceding three years is recommended. Older children and adults should be inoculated with precaution and preferably only after Schick testing.

The situation warrants re-emphasis of the importance of administering diphtheria antitoxin in all suspected cases without attempting therapeutic tests with other agents or awaiting the results of bacterial examination of nose and throat cultures. Health News, N. Y. State Dept. Health, Apr. 8, 1946.

* * * * *

ANSWERS TO QUESTIONS ON PAGE 141

1. Smallpox, diphtheria, whooping cough, and tetanus.
2. During the first year of life, beginning at six months.
3. Three, starting at six months. A booster dose after age two.
4. Not necessarily.
5. Whooping cough, diphtheria, and tetanus.
6. Every five years.
7. A small dose of vaccine after the initial course of injections to further stimulate body defenses.
8. Nine.
9. One month after birth.
10. (a) Within five days after exposure.
    (b) Between the 5th and the 11th days. *Health Education Journal*, Los Angeles Schools, Feb., 1946, p. 2.

* * * * *

Sanitation in the Pioneer School,—Of course the old fireplace had disappeared, and the school heating plant now consisted of a cast-iron stove set in the center of the room, with a long pipe shooting up to a right-angled elbow, and then tottering over to the chimney hole in the wall, supported by wires suspended from the ceiling. On very cold days, the pupils sitting nearest the roaring stove were red and sweating, while those near the windows might be blowing on their fingers.

Itch and lice were still afflicting country schools in my youth. There was an outbreak of itch every winter when the pupils came together, for some scrub families had it the year round and distributed it among others as soon as school opened—whence arose the legend of the "seven-year-itch." It could be cured at any time with an ointment of grease and sulphur—or other things—which killed the tiny mites that caused it; but some families were too ignorant or dumb or lazy—or all three—to do even this. Neither of these pests was any respecter of persons; the careful and cleanly must be always fighting them off in the country. You clasped hands or scuffled with a boy who had the itch, and the first thing you knew, there you were with a case, too—sometimes just from sitting in the seat with him.

Itch raged among medieval royalty and aristocrats, and that Grand Monarque, Louis XIV, had lice under his wig. But long before his time it was known that lice were the particular guests of dirty people; an old English commentator was of the opinion that the louse "commeth out of the filthi and oncleane skynne," and as Louis was one of the dirtiest of kings—one of his courtiers said that he "smelt like a carcase"—it is no wonder that he was verminous. The soldiers came home from the Civil War with all three kinds of lice; and as there were no delousing rites then, as after the World War, and as some of the soldiers were not very particular, anyhow, it took years to undo the backset which they gave us.

In our neighborhood, as in most others, it was only a small minority of families who kept these pests alive and regularly handed them around to the rest of us. One could plainly see the white louse eggs or nits on the unkempt hair of such folk, especially if the hair was dark. There was nothing that could be done about it; compulsory sanitation had not yet come into style. They were freeborn American citizens, by gosh, and they had as good a right to tote lice around as they had to breath the ozone. But my mother and others of her fastidious kind used to grumble aloud the wish that it were possible for someone to grab those young 'uns and stick their heads into a pail of lye water so strong that it would take the

hair off. I had to undergo an inspection—an occasional treatment —every three or four days, with my head clamped between my Mother's knees if I was disposed to be too restless. There were times when the pests were particularly active, when she kept my hair cut so short that I looked like a peeled onion. Reprinted from the Health Education Journal, Los Angeles City Schools, April, 1946.

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